



# PARASOUND

## Halo JC 2 RS-232 Protocol

### Protocol Specs

Baud Rate: 9600 bps  
 Data Bit: 8 bits  
 Stop Bit: 1 bit  
 Parity: None  
 Flow Control: No

### Pin Connections

TxD: Pin 2  
 RxD: Pin 3  
 Gnd: Pin 5

**Basic RS-232 Control:** ASCII (not decimal) and hexadecimal examples are shown below. The commas in the Hex example are merely for your ease of reading and are not required in transmission. All strings must have a space (line feed) between each number or letter (except two digit numbers). In the Hex examples the space is already represented with code "20." The end of each string must have a carriage return after the last number with no space in-between, this is represented by "<CR>."

<u>Command</u>	<u>String ASCII</u>	<u>String Hexadecimal</u>
Power On	W 1 1 2<CR>	57,20,31,20,31,20,32<CR>
Power Off	W 1 1 1<CR>	57,20,31,20,31,20,31<CR>
Power Toggle	W 1 1 3<CR>	57,20,31,20,31,20,33<CR>
Volume Up	W 1 9 1<CR>	57,20,31,20,39,20,31<CR>
Volume Down	W 1 9 2<CR>	57,20,31,20,39,20,32<CR>
Mute On	W 1 10 2<CR>	57,20,31,20,31,30,20,32<CR>
Mute Off	W 1 10 1<CR>	57,20,31,20,31,30,20,31<CR>
Mute Toggle	W 1 10 3<CR>	57,20,31,20,31,30,20,33<CR>
Polarity Normal (0)	W 1 2 13<CR>	57,20,31,20,32,20,31,33<CR>
Polarity Invert (180)	W 1 2 14<CR>	57,20,31,20,32,20,31,34<CR>
Polarity Toggle	W 1 2 15<CR>	57,20,31,20,32,20,31,35<CR>
12V Trigger On	W 1 3 1<CR>	57,20,31,20, 33,20,31<CR>
12V Trigger Off	W 1 3 2<CR>	57,20,31,20,33,20,32<CR>
Input 1	W 1 2 6<CR>	57,20,31,20,32,20,36<CR>
Input 2	W 1 2 7<CR>	57,20,31,20,32,20,37<CR>
Input 3	W 1 2 8<CR>	57,20,31,20,32,20,38<CR>
Input 4	W 1 2 9<CR>	57,20,31,20,32,20,39<CR>
Input 5	W 1 2 10<CR>	57,20,31,20,32,20,31,30<CR>
Input 6	W 1 2 11<CR>	57,20,31,20,32,20,31,31<CR>
Next Input	W 1 2 4<CR>	57,20,31,20,32,20,34<CR>
Previous Input	W 1 2 5<CR>	57,20,31,20,32,20,35<CR>

**Please Note:** "<CR>" stands for Carriage Return, the Hex Code is "0D". A space in Hex is "20", a space in ASCII is just a blank space (as shown above).

**Feedback Information:** Unsolicited feedback is sent anytime that the JC 2 is controlled by IR remote, Front Panel or by RS232 . Feedback will be automatic and in this format:

**\*G1 S3 M1 P1 T0<CR>**

\* = Start of transmission

<CR> = End of transmission

G0 = Power Off, G1 = Power On

S1 = Input 1, S2 = Input 2, S3 = Input 3, S4 = Input 4, S5 = Input 5, S6 = Input 6

M0 = Mute Off, M1 = Mute On

P0 = Polarity Normal, P1 = Polarity Invert

T0 = 12V Trigger Off, T1 = 12V Trigger On

**Volume Feedback \*V0<CR> and \*V1<CR>**

Because the volume control is a motor driven type there is no exact feedback of the current volume setting. When the volume is turned up or down from the remote or RS232, feedback will be transmitted confirming the volume was increased or decreased. This will be represented by a “\*V0<CR>” for volume decrease and “\*V1<CR>” for volume increase.

You can request the status of the JC 2 by issuing the following commands...

<u>Request</u>	<u>String ASCII</u>	<u>String Hexadecimal</u>	<u>Response From JC 2</u>
Current Input	R 1 2<CR>	52,20,31,20,32<CR>	*S1<CR> *S2<CR> *S3<CR> *S4<CR> *S5<CR> *S6<CR>
Power Status	R 1 1<CR>	52,20,31,20,31<CR>	*G0<CR> *G1<CR>
Polarity Status	R 1 3<CR>	52,20,31,20,33<CR>	*P0<CR> *P1<CR>
Mute Status	R 1 10<CR>	52,20,31,20,31,30<CR>	*M0<CR> *M1<CR>
12 Trigger Status	R 1 4<CR>	52,20,31,20,34<CR>	*T0<CR> *T1<CR>
Full Status	R 1 13<CR>	52,20,31,20,31,33<CR>	*G1 S2 M0 P1 T0<CR>